THE PRESENCE OF HEMOLYTIC, CYTOLYTIC AND COMPLEMENT-BINDING SUBSTANCES IN EXTRACTS OF ENDAMOEBA HISTOLYTICA

DURING some researches connected with evolving, if possible, a complement-fixation test which might be useful in the diagnosis of infections with *Endamoeba histolytica,* it was noted that alcoholic extracts of cultures of this organism were hemolytic and cytolytic, and capable of binding complement when mixed with the serum of individuals harboring this parasite. Experiments with such extracts have shown that the hemolytic properties of the extracts were destroyed by heating the extracts to 80° C. in a water bath for one hour; that the hemolytic substance was soluble in absolute and 50 per cent. alcohol, but practically insoluble in normal salt solution; that the hemolytic substance is apparently contained in the bodies of the amoebae as it was not present in the supernatant fluid of the cultures; and that this substance was apparently only present in the living organisms, as old cultures containing no living organisms did not possess hemolytic properties. It was also determined that the hemolytic substance was not specific for human red blood corpuscles, but was equally hemolytic to rabbit and guinea-pig red blood corpuscles.

The extracts of cultures of *Endamoeba histolytica* did not contain any bacteriolytic substance, a fact in agreement with the well known observation that this organism does not ingest bacteria under normal conditions.

It has been determined that the complement-binding substance is only active when brought in contact with the blood serum of individuals harboring *Endamoeba histolytica.* Using the usual method of making the complement-fixation test for syphilis adopted in the United States Army, but employing the extracts of *Endamoeba histolytica* as antigens, positive results have been obtained with such sera, and negative results with the blood sera of individuals free from infection with this parasite or infested with other endamoebae, as *Endamoeba coli, Endamoeba nana,* etc. These observations are still incomplete, and will be published in full later, but it is believed that a useful diagnostic complement-fixation test for infections with *Endamoeba histolytica* can be evolved by using alcoholic extracts of the parasite as antigens.

The results of the complement-fixation tests demonstrate that antibodies are present in the blood serum of individuals infected with *Endamoeba histolytica,* not only in cases presenting symptoms of the infection, but also in the "carriers" of this parasite who are apparently without any symptoms or physical signs of the infection.

A detailed description of the experiments demonstrating the facts referred to above will be published in the July issue of *The American Journal of Tropical Medicine.*

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THE HAWAIIAN ACADEMY OF SCIENCE

THE Hawaiian Academy of Science held its second annual meeting from May 4 to 7. The enclosed program gives a list of the papers presented. The subject of Dr. A. L. Dean's presidential address was a plea for the general teaching of a more broadening and interesting kind of philosophy, which would help the student to see his own little line of endeavor in relation to the whole domain of human interest. It was an answer to the controversy between Professors Davis and Durant.

Three special meetings of the academy were held during the year to hear distinguished visiting scientists. On July 26, 1926, Dr. L. R. Jones, professor of plant pathology at the University of Wisconsin, spoke on "Disease Resistance in Plants"; and Dr. Alexander A. Maximow, professor of anatomy, University of Chicago, gave two addresses on "Tissue Culture," on August 18 and 25, 1926.

Forty-five new names have been added to the membership rolls, making the total number 159. The academy has had a very successful year in both finances and enthusiasm.

The proceedings of the first annual meeting were published by the Bernice P. Bishop Museum, as special publication 11. No provision has so far been made for publishing the proceedings of this year's meeting.

The officers elected for the coming year are: *President,* Guy R. Stewart, chemist, Hawaiian Sugar Planters' Experiment Station; *vice-president,* J. F. G. Stokes, ethnologist, Bernice P. Bishop Museum; *secretary-treasurer,* Professor Paul Kirkpatrick, University of Hawaii; and *councilor,* Dr. Nils P. Larsen, medical director, Queens Hospital. These men with Charles S. Judd, *councilor,* and Dr. A. L. Dean, *retiring president,* will compose the council.

E. H. BRYAN, JR.,
Retiring Secretary-Treasurer.